

DWF #8

ChemRisk/Shonka Research Associates, Inc., Document Request Form

(This section to be completed by subcontractor requesting document)

Requestor J. Lamb 1 K-25 CEP  
Document Center (is requested to provide the following document)

Date of request 4/28/95 Expected receipt of document 5/20/95

Document number none Date of document 3/25/88

Title and author (if document is unnumbered)

Environmental Survey ORGDP Closeout Notes.

(This section to be completed by Document Center)

Date request received 4/28/95

Date submitted to ADC 5/2/95

Date submitted to HSA Coordinator \_\_\_\_\_

(This section to be completed by HSA Coordinator)

Date submitted to CICO 5-3-95

Date received from CICO 5-4-95

Date submitted to ChemRisk/Shonka and DOE 5-8-95

(This section to be completed by ChemRisk/Shonka Research Associates, Inc.)

Date document received \_\_\_\_\_

Signature \_\_\_\_\_

K-25 Env. Sur.  
Close out

ENVIRONMENTAL SURVEY  
OAK RIDGE GASEOUS DIFFUSION PLANT  
CLOSEOUT NOTES\*  
MARCH 25, 1988

Oak Ridge K-25 Site  
Oak Ridge, Tennessee 37831-7314  
managed by  
MARTIN MARIETTA ENERGY SYSTEMS, INC.  
for the U.S. DEPARTMENT OF ENERGY  
under Contract DE-AC05-84OR21400

\*NOTE: The findings contained herein are preliminary in nature and are subject to change pending receipt of additional information.

Lawrence A. Weiner  
Team Leader

Susan G. Barisas  
Assistant Team Leader

This document has been approved for release to the public by:

*William P. Smith* 5/4/95  
Technical Information Officer Date  
Oak Ridge K-25 Site

## Inactive Sites

### Category I

None

### Category II

None

### Category III

- o Over seventy areas where hazardous and radioactive substances may have been disposed of, spilled, or released have been identified by ORGDP. These areas constitute actual and potential sources of soil, surface water, and groundwater contamination. The sites range in size from small spills to multi-acre landfills. Attachment A identifies 20 areas of significant known actual and potential contamination along with the status of associated groundwater monitoring. The degree to which the areas have been characterized is highly variable and the nature and extent of groundwater contamination is unknown. Although the most significant sources of contamination have probably been identified, the list of actual and potential sources is incomplete because ORGDP has not performed a comprehensive review of existing information, e.g., aerial photos, site records and files, blueprints, and interviews with current and former employees.

The Survey team identified the following twelve areas (not on ORGDP's list of sites) that warrant further investigation, based on interviews and document reviews:

- K-901 Sanitary Disposal Area (Lonnie's Landfill)
- South of K-1070F: (J.A. Jones Area ?)
- Switchyards (K-732, K-762, K-792)
- K-710B Sludge Beds
- K-710C Emhoff Tank
- K-1035 Acid Pit
- K-1024 Diluting Pit
- Flannigans Loop and Landfarming
- Borrow Fill Holes

- Slope North of K-25 Filled With Trash
- Trash Area Across Poplar Creek, Along RR Tracks, NE of K-25
- Southern Railway Yard, SW of Plant, Along Turnpike

This list of twelve sites is neither intended nor expected to be comprehensive, but rather to indicate that additional sites warranting investigation may be identified through a more comprehensive review process.

#### Category IV

- o A complete CERCLA 103(c) notification requires the identification of all areas known or suspected of having received hazardous substances. The Department of Energy originally claimed an AEC exemption from this requirement. Subsequent submissions to EPA may have fulfilled this regulatory requirement. It is unclear at this time which remedial program documents have been submitted to EPA by the Oak Ridge Operations Office. These subsequent submittals may have largely fulfilled this requirement, however, additional notification to EPA will be necessary as new sites are discovered.
- o Lack of reporting and clean-up of miscellaneous spills of hazardous substances may result in soil or groundwater contamination. The following stained areas were observed during the Survey:
  - K-1420/1421: stained asphalt and gravel
  - K-1303: oil soaked asphalt/gravel/grass
  - K-1098-D: roads and grounds garage asphalt stains
  - K-794: (K-33 switchyard) stained soil
  - K-25: (303-10) oil cooler drain tank leak, pans full
  - K-1202/1420A: tank and RR pit, oily sediment
  - K-633 Test Loop: oil in waste oil containment, stained soil and asphalt, oil/water in basement

## Hydrogeology

### Category I

None

### Category II

None

### Category III

- o Based on ORGDP monitoring data there are at least twelve areas on-site where groundwater is contaminated with organics (such as chlorinated solvents), radionuclides (expressed as alpha and beta radioactivity), and other contaminants (such as metals, sulfates, and coliform). Contamination in excess of drinking water standards has been identified, however, the extent of contamination has not been characterized.
- o The nature and extent of groundwater contamination is uncharacterized at known and potential source areas. There are thirty-five sites currently considered to require groundwater investigations because of known or suspected contamination associated with them. A groundwater investigation program is underway; 137 wells have been installed to date. In addition upgradient monitoring wells for at least six sites are apparently contaminated either by the facility which they are intended to provide background water quality for or by other nearby uncharacterized sources.

### Category IV

- o The validity and utility of some of the groundwater monitoring data may be limited due to the following:
  - Monitoring wells completed below grade in roads and paved parking areas are subject to vandalism due to non lockable covers; are subject to misidentification due to lack of permanent identification labels; and may be contaminated from surface runoff leaking into the casing by way of the unsealed manhole covers on the Kristi box.
  - Best industry practice calls for a well to be purged of 3-5 well volumes or until the pH, temperature, and conductivity stabilize, whichever takes longer. The

Survey team observed a sampler commence sampling before the parameters stabilized.

- During sampling, the Survey team observed the sampler cover the bailer inlet with a gloved hand in order to pour the sample into the bottles. The sampler also handled a hand held windless with that same gloved hand. Cross contamination may occur as a result of this handling.
- ORGDP guidelines require that groundwater samples with beta concentrations greater than 50 pCi/l be analyzed to determine the specific beta emitters. These groundwater samples have been archived for further analysis but no analysis has been completed.
- PVC construction materials used for some wells (UNW-1 through 11, BRW-1 through 9, UNP-1 through 17) may affect the results for organics. Use of PVC in well construction at ORGDP was discontinued in 1985.
- Wells BRW-40, BRW-41, and BRW-29, installed in July-August 1987, have not been sampled. These wells are background for the K-1070-F, K-1232, and K-1064 Areas. Without background data from these wells, the current monitoring data for these areas will be less useful because statistical evaluation of contamination cannot be performed relative to a background well.

## Soil

### Category I

None

### Category II

None

### Category III

o Soil contamination as a result of ORGDP activities has not been fully characterized. The Survey has identified the following areas that are or may be contaminated with hazardous constituents or radionuclides:

- Cooling Tower Areas - Chromium contamination of soil near the cooling towers has occurred as a result of windage and drift. Soil sampling in three cooling tower areas, from 1975-1981, showed chromium concentrations ranging from 27-2260 ppm.
- K-1420 Cylinder Cleaning Facility Stack Exhaust Area- The stack from this facility was one of the higher sources of uranium emissions during the 1984-85 stack survey. The exhaust was vented horizontally, approximately 8 feet above the ground. At the time of the stack survey the vent did not have a HEPA filter. Soil in the vicinity of this stack may be contaminated with uranium and fluoride. No soil sampling of this area has been performed.
- Purge Cascade Vent Areas - Releases from the K-25 and K-27/K-29 purge cascade vents are believed to have been the source of contamination in the grass area south of these buildings. Other nearby ground surfaces in the general vicinity of these buildings have not been sampled.

### Category IV

- o Soil and vegetation sampling locations are not co-located with ambient air monitoring stations. Generally accepted practices include co-locating sample locations so that soil and vegetation contamination resulting from airborne deposition can be compared to real (versus modeled) air monitoring data. ORGDP currently

Waste Management

Category I

None

Category II

o The long-term storage and accumulation of mixed wastes on-site, due to the lack of treatment/disposal alternatives, increases the potential for the release of hazardous and/or radioactive constituents to the environment. Examples of such wastes include:

- TSCA incinerator ash (even if delisted it will still be a radioactive waste);
- K1232 inorganic haz/rad sludge;
- Stabilized and nonstabilized sludges from 1407 B&C ponds; and
- Radioactive and hazardous chemicals and wastes from CIP/CUP phaseout.

(Note: The above list is not intended to be comprehensive)

o Leaking and/or deteriorating drums of waste were observed at the following areas:

- K792 Switchyard - 60 to 70 drums of haz waste, waste oil PCBs and unknowns; heavy leakage/spillage; as of 3/23 leakers removed or overpacked and leakage soaked up; ground still heavily stained; 44 drums remain as of 3/24;
- K1200 - 60 drums (mostly of heat transfer fluid); 1 leaking and many in poor condition; storm drain located nearby;
- K1004-T - approximately 20 drums of unknowns; badly corroded;



- K770 - Scrap Metal Shearer Building - 7 drums of waste oil and antifreeze; several in bad condition; approximately 500 gallons of oil/water in a pit outside building; ground heavily stained; source of contamination appears to from the 770 which contains a tank of hydraulic fluid and trench which leads from the building to the pit;

(Note: The above list is not intended to be comprehensive)

### Category III

- o Lack of integrity testing of underground hazardous material storage tanks could result in undetected releases to soil and groundwater. There are at least 31 underground storage tanks at ORGDP ranging in age from 3 to 40 years. Many of the tanks lack corrosion protection, secondary containment, or leak detection systems.

### Category IV

- o There is a potential for release of hazardous substances from waste accumulation areas (WAAs) lacking secondary containment and/or impermeable surfaces. The Survey identified the following problems at waste accumulation areas:

AREA	MATERIAL	OBSERVATIONS
1401	30 drums waste oil and coolant	No containment Permeable surface
1098E	4 drums waste oil	No containment Permeable surface
770 Shearer Bldg	5 drums antifreeze 2 drums waste oil 500 pit pool of oil/water	No containment Permeable surface Stained soils
892H	25 drums waste oil/sludge in 3 areas	No containment Permeable surfaces Stained soils
1004T	20 drums unknowns	No containment Organic odor
1200	60 drums heat transfer fluid	No containment Storm drain nearby

792	60 to 70 drums waste oil,	No containment
Switch-yard	PCBs, hazardous waste and unknowns; as of 3/23 leaks and spills cleaned up; 44 drums remain as of 3/24	Semi-permeable surface Spills and stains Storm drain nearby
1004	approx 40 drums acids, bases, organics, and rad wastes	Leaky roof Drums in water after rain Water can exceed capacity of WAA containment
1414	25 drums waste oil; 6 pallets lead batteries	No containment
633	400 gal waste oil tank outside K633	Tank dike half full of oil
	4 drums unknown waste	No containment Permeable surface

(Note: The above list is not intended to be comprehensive)

- o Inadequate secondary containment at the K1420A flammable waste drum unloading station may result in a release. The lip of the containment was bent thereby decreasing the effective containment capacity. The lip was fixed on 3/23 and there is now sufficient capacity.
- o An incomplete hazardous substance UST inventory may result in releases of hazardous substances to the soil and groundwater from tanks that are neglected or not properly closed. The ORGDP hazardous substance UST inventory is incomplete. The inventory of 31 USTs submitted to TDHE pursuant to the RCRA section 280 notification requirement was incomplete. The Survey team identified tanks not on the current inventory, e.g., fuel tanks at GCEP and process tanks at 1420. Other tanks may exist. ORGDP will provide the Survey team with a complete list of USTs not on the current inventory and will update their submission to TDHE.
- o Labels used on low-level radioactive waste drums are misleading and could result in mishandling such wastes. Low-level radioactive waste drums (as well as nonradioactive waste drums) are boldly labeled "NON-HAZARDOUS" on green labels. The drums also contain a tag which upon close inspection indicates that the waste is radioactively contaminated. Unique labels for low-level radioactive wastes clearly indicating the type of waste may prevent mishandling.

Toxic and Chemical Materials

Category I

None

Category II

- o The following PCB equipment or waste was leaking and/or improperly stored:

AREA	MATERIAL	PROBLEM/STATUS
K33 Bldg	Transformer B-700-A-38	Leaking; cleaned up 3/21
	Transformer B-71PB	Leaking; cleaned up 3/21
	4 drums debris;	Improper storage; moved to proper area 3/15
	1 drum askarel	Improper storage; moved to proper area 3/15
K792	Transformer 314	Leaking; gravel stained; drip pans put in place 3/21
K794 outside	2 drums waste oil greater than 50ppm	Improper storage; appeared to be several months old; moved to proper storage
K709 Switchyard	Tranformer-K 892-EN-13	Improper storage; not in PCB inventory; potential for improper handling
	" -226789	
	" -3411334	
	" -4929801	
	" -no # (same size/type as 4929801)	
	" -2668922	
	" -2668941	

(Note: The above list is not intended to be comprehensive)

Category III

None

Category IV

- o There is a potential for release of hazardous materials from product dispensing and bulk storage areas. The Survey identified the following problems at these areas:

AREA	MATERIAL	PROBLEM
K792	Drum dispensing rack	No drip pans
K1004T	Drum dispensing rack	No drip pans; drums are corroding
K1414	Drum of kerosene	Leaking; area stained
K792 Switch Yard	two 4000 gal tanks labeled OCB tap changer oil	No secondary containment
K761 Switch Yard	one 4000 gal tank labeled OCB tap changer oil	No secondary containment
K731 Switch Yard	two 4000 gal tanks labeled OCB tap changer oil	No secondary containment
	two 4000 gal tanks labeled mineral oil	No secondary containment
K633 basement	500 gal tank of oil	Leaking; 3" of oil/water in basement
K770 Shearer Bldg	500 gal tank of hydraulic fluid	No secondary containment; floor stained; trench with oil in it leads from building to a pit outside; pit contains oil

(Note: The above list is not intended to be comprehensive)

- o There is a potential for windborne dispersion of exposed asbestos from the K-25/K-27 tie-line. The Survey observed asbestos insulation on the ground beneath the tie-line. ORGDP cleaned up the asbestos and is in the process of wrapping the tie-lines in plastic. This is an interim measure; plans are to remove the asbestos this Spring.

- o The ORGDP Annual PCB Inventory is incomplete and inaccurate. The Survey identified the following transformers (improperly stored) at the K709 Switchyard which were not on the ORGDP Annual PCB Inventory:

Transformer-K 892-EN-13  
 " -226789  
 " -3411334  
 " -4929801  
 " -no # (same size/type as 4929801)  
 " -2668922  
 " -2668941

(Note: The above list is not intended to be comprehensive)

In addition, the inventory overstates the amount of PCBs in transformers because the total weight of the oil is used versus the weight of the PCBs in the oil, as required in TSCA.

- o There is a potential for the release of PCBs to the soil via cracks in the floor of K726 (Building used to store PCBs awaiting disposal). In addition, rain can enter the building through broken windows. ORGDP is in the process of fixing the broken windows.
- o There is a potential for mishandling PCB transformers that are not correctly labeled. The Survey observed that the following PCB transformers did not have labels:

AREA	TRANSFORMER #	PCB CONCENTRATION
K-27 Switchyard	92PC	510ppm
	91PA	943ppm
	91PB	518ppm
K862 Pumphouse	A1	599ppm
K1037-B	B2	621ppm
K1037-D	D2	687ppm
	D3	524ppm
	D4	546ppm
K709 Powerhouse	7936848	618ppm

(Note: The above list is not intended to be comprehensive)

Surface Water

Category I

None

Category II

None

Category III

o Pollutants are being released to certain storm drains resulting in potential off-site surface water contamination. ORGDP is currently identifying the contaminated storm drains and tracing the sources of the contamination. ORGDP has identified the following contaminated storm drains:

- SD 100/104 - receives lab rinses, groundwater, and cooling tower (CT) blowdown from southeast part of site; analyses showed TDS, COD, total residual chlorine (TRC), high pH, ammonia, sulfates, Fe, Al, Cl, gross alpha and beta;
- SD 170 - receives CT blowdown, once-thru-cooling-water (OTCW) from 1501, 1037 (AVLIS); formerly received coal pile runoff; analyses showed Al, Fe, Cl, TDS, high pH, gross alpha and beta;
- SD 180 - receives runoff from garage area, effluent from K1401 machine shop floor drains, groundwater, and OTCW; analyses show Al, Fe, COD, Cl, TDS, high pH, gross alpha and beta;
- SD 190 - receives effluent from K1401 machine shop, OTCW, and area runoff; analyses show Al, Fe, TDS, gross alpha and beta;
- SD 280 - receives runoff from road salt pile in K1064 area; analyses show Na (3600 mg/l), Cl (4800 mg/l), TDS (9748 mg/l);
- SD 500 - receives runoff from the K27/29 purge cascade area and east side of K25; analyses show gross beta; and
- SD 992 - receives runoff from ash pile area at the Powerhouse; analyses show Al, As, Be, TRC, Fe, sulfate, TDS, low pH.

- o Lack of integrity of the sewage collection system results in infiltration of groundwater to the system during saturated soil conditions (most of the year), and exfiltration of untreated sewage from the system during unsaturated soil conditions (drought periods). Infiltration may contribute to overloads and permit exceedences at the STP during periods of heavy rainfall (see related Surface Water finding, Category IV, 4th bullet). Exfiltration, although infrequent, results in the release of untreated sewage to the soil and possibly the groundwater.

#### Category IV

- o The oil trap (an inverted flow sump) at the concrete washdown pad in the 1064-C area was not functioning because it was filled with silt and debris from the washdown of fly-ash trucks and other heavy equipment. In addition, the discharge from the sump is not monitored as required in the NPDES permit. The permit requires monthly sampling of discharges from Vehicle and Equipment Cleaning Facilities. Sample parameters include oil and grease, and total suspended solids. BOD and fecal coliform are required if sanitation equipment is washed. Effluent (potentially contaminated with oil and grease) from the sump enters Poplar Creek via storm drain SD-294. The silt and debris were removed from the sump on March 21, 1988.
- o Runoff from the south coal pile appears to bypass collection and treatment systems, during periods of heavy rainfall and may enter Mitchell Branch via storm drains SD-170 or 180. The ditch draining the south coal pile is partially filled with coal and silt which reduces drainage capacity, and the roadway shows evidence of bypass (reddish brown stains). The release of untreated coal pile runoff, which typically has low pH and high levels of iron, TSS, and TDS, to surface waters of the state, is a violation of the NPDES permit.
- o Inappropriate flow measurement devices at several NPDES monitoring stations may result in inaccurate results. The following monitoring stations have flow measurement devices that do not meet the NPDES permit requirement of a plus or minus 10% maximum deviation from "true" discharge rates throughout the range of flows:
  - K901-A - weir is tilted 9/32";
  - K1007-B - weir widths incorrect; flow level indicator too close to weir;

- K1407-B - flow sensing unit located improperly; no chart recorder to provide continuous flow measurements as required;
- K1515-C - weir crest too close to bottom of approach channel; flow level indicator too close to weir;
- K1700 - weir crest too close to bottom of approach channel; this issue may become moot if K-1700 becomes a downstream ambient station to the proposed 010, 011, and 012 upstream stations; and
- General - sharp-crested weir formulae are used to calculate flow measurements even though none of the weirs are sharp crested; ORGDP may physically modify these flow monitoring stations or develop appropriate formulae to correct the flow measurements rather than install sharp-crested weirs.

The above deficiencies were identified during a May 1987 field evaluation by EPA and remain outstanding. The Tennessee Department of Health and Environment (TDHE) has authorized ORGDP to re-examine the need for major expenditures related to points K901-A, K1007-B, K1407-B, and K1700 since the TDHE does not intend to permit these outfalls after 2/89. K1407-B will be replaced by two new outfalls. The other three stations will become ambient monitoring points rather than NPDES points. ORGDP has contracted for assistance in solving the flow measurement problems. The contractor's report is due in 4/88.

- o Partially-treated sewage is routed around the sewage treatment plant (STP) aeration system during some heavy rainfall events (greater than 0.5 inches in 24 hours) resulting in potential exceedances of NPDES TSS limits and possible noncompliance with an NPDES reporting requirement. Based on data for past rainfall events, STP flows, and effluent concentrations, the Survey team estimates that routings of partially-treated sewage around the STP aeration system occur 2 to 3 times per year with 1 to 2 TSS exceedances. Depending on the interpretation of NPDES permit requirements and whether the "routing" is considered to be an "established operating mode" for collecting excess flow, such "routings" may be considered a bypass under the NPDES permit and may need to be reported to the state.



- o The narrow diameter sample line and distance (approximately 200 feet in an uphill direction) between the sample collection container and the new NPDES point K1407-F will result in nonrepresentative composite samples. The length and diameter of the sample line (plastic tubing) allows for plugging due to solids deposition, freezing during the winter, particle sorting by size, and adsorption of metals on the tubing walls.

Air

Category I

None

Category II

None

Category III

- o Coal burning boilers at the steam plant are frequently in violation of opacity standards. Exceedances in 1987 occurred on 33 of the 69 days that the coal fired boilers were operated. Although this is not a significant environmental problem and TDHE has not issued any notices of violation, the operating permits for the boilers may not be renewed. The permit renewal date is 10/88. Five of 7 boilers are coal fired only; the other 2 are equipped to burn natural gas, however, one of these boilers is nearing the end of its useful life.

Category IV

- o The K1420 Cylinder Cleaning vent discharges horizontally out of the building resulting in poor air dispersion. In addition, the exhaust may have impacted the ground resulting in contamination of the ground/soils in the area with uranium and fluorides. Although the vent now has a HEPA filter, accepted practice dictates that vents discharge vertically above the roof line.

Radiation

Category I

None

Category II

None

Category III

None

Category IV

- o Off-site impacts due to penetrating radiation emissions, although not expected, cannot be fully characterized due to the lack of a perimeter penetrating radiation monitoring program.

Quality Assurance/Quality Control

Category I

None

Category II

None

Category III

None

Category IV

None

# ATTACHMENT A

## MOST SIGNIFICANT ORGDP CERCLA SITES (DOE HQ SURVEY TEAM - MARCH 1988)

### KNOWN CONTAMINATION/RELEASES

- K-720 FLY ASH PILE
- K-770 SCRAP METAL YARD
- K-901A HOLDING POND
- K-1064 PENINSULA STORAGE/BURN AREA
- K-1070A CONTAMINATED BURIAL GROUND
- K-1070 C/D CLASSIFIED/CHEM. DISPOSAL AREA
- K-1407 B/C PONDS/RETENTION BASIN
- K-1413 TREATMENT FACILITY/PROC. LINES
- K-1414 LUST
- K-1232 TMT. FACILITY
- K-1070B OLD CLASSIF. BURIAL GROUND

### POTENTIALLY SIGNIFICANT CONTAM.

- COOLING TOWER BASINS/RCW LINES
- K-1070F, OLD CONTRACTORS BUR. GRND.
- K-1085 OLD FIREHOUSE BURN AREA
- K-1099 BLAIR ROAD QUARRY
- K-1203 SEWAGE TMT. PLANT
- K-1410 NICKEL PLATING FACILITY
- K-1420 U RECOVERY & DECON. FAC.
- K-1401 DEGREASER TANKS/ACID LINES
- K-1515 WATER PLANT SLUDGE

1	2	3	4
		•	•
		•	•
		•*	
		•	
		•	
		•	
	•	•	
	•	•	
		•	
		•*	
	•	•	
			•
		•*	
		•	
		•	
			•
			•
			•

### NOTES

1. Fully Characterized
2. Compliance Monitoring in Progress
3. Detection Monitoring in Progress
4. Initial Characterization Wells Installed

(\* Background well not sampled)

MARTIN MARIETTA ENERGY SYSTEMS, INC.

POST OFFICE BOX P  
OAK RIDGE, TENNESSEE 37831

December 4, 1987

Mr. Joe W. Parks, Director  
Enriching Operations Division  
Department of Energy, Oak Ridge Operations  
Post Office Box E  
Oak Ridge, Tennessee 37831

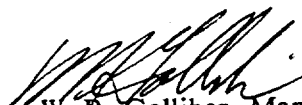
Dear Mr. Parks:

Environmental Protection Agency (EPA) Performance Audit Inspection - Oak Ridge  
Gaseous Diffusion Plant (ORGDP)

Enclosed is an action plan that addresses the deficiencies that were noted by the Environmental Protection Agency (EPA), Region IV, during a Performance Audit Inspection conducted on the National Pollutant Discharge Elimination System Program at the Oak Ridge Gaseous Diffusion Plant (ORGDP) in June 1987. During the audit, both field and laboratory practices were reviewed, and the deficiencies were noted in the EPA's Performance Report dated September 21, 1987. The action plan lists the EPA deficiencies, the corrective measures to be taken, the persons responsible, and the expected completion dates.

If you have questions or need additional information, please contact W. J. Scheib at extension 6-2510.

Sincerely,



W. R. Golliher, Manager  
Oak Ridge Gaseous Diffusion Plant

WRG:WJScheib:shh

Enclosure

cc: J. T. Bradbury  
J. C. Hall  
M. E. Mitchell  
C. H. Peterson  
J. E. Shoemaker  
File - WRG

cc/enc: T. A. Bowers - RC  
N. W. Bowman  
D. W. Frazier ←  
J. L. Haymore  
S. R. Humphreys  
R. W. Keylon  
A. C. Lay

R. W. Morrow  
E. W. Pritchard  
W. J. Scheib  
D. B. Sneed  
C. L. Stair  
L. O. Wyatt

**ACTION PLAN**  
**ENVIRONMENTAL PROTECTION AGENCY (EPA)**  
**PERFORMANCE AUDIT INSPECTION**  
**OAK RIDGE GASEOUS DIFFUSION PLANT (ORGDP)**

**December 4, 1987**

1. Field Evaluation Section1 Permit Verification - No Martin Marietta Energy Systems, Inc., deficiencies2 Records/Reports

K87 - EPA	Deficiency	Correction	Responsible	Completion
2A	K-1232 data reported	Report data when Y-12 waste waters are treated	Scheib	Complete
2B	Coal pile runoff not sampled or reported	Initiate sampling and report data on next monthly report	Scheib	12/15/87
2C	Samples not collected on weekends and holidays	Collect additional samples when field preservation is implemented	Morrow	3/1/88
2D	K-1407-B reported flows - not 24-hour total flow	Report total flow	Bowman	12/15/87
2E	Residual chlorine analyzer was not used to determine a daily maximum value	Review analyzer strip chart for daily maximum value	Bowman	12/15/87
2F	Geometric means not used for calculating monthly average for fecal coliform	Utilize proper calculations for fecal coliform on next monthly report	Scheib	12/15/87
2G	24-hour sample times not recorded	Document this information	Bowman	12/15/87
2H	Samples for K-1101 not labeled properly	Label samples properly	Bowman	Complete
2I	Meter calibrations not documented properly	Document calibrations properly	Bowman	12/15/87
2J	Composite sampler temperature not recorded	Check and record temperature	Bowman	12/15/87
2K	The facility Spill Prevention Control and Countermeasure Plan not signed by professional engineer (PE)	Next revision will be signed by PE	Haymore	12/31/87



3 Flow Measurements

## 3A

<u>EPA</u>	<u>Deficiency</u>	<u>Correction</u>	<u>Responsible</u>	<u>Completion</u>
18 3A(1)	1) Sharp crested weir formula used for K-1700 (001)	Initiate project to modify weir structure	Scheib	1/15/88
11 3A(12)	2) Sharp crested weir formula used for K-1407-B (003)	Modify weir structure	Scheib	12/15/89
		Proper formula is being utilized; H-flume	Scheib	Complete
12 3)	3) Sharp crested weir formula used for K-1203 (005)	Initiate project to modify weir structure	Scheib	1/15/88
13 3A(3)		3A(3a) Modify weir structure	Scheib	1/15/89
14 4)	4) Sharp crested weir formula used for K-1007-B (006)	Initiate project to modify weir structure	Scheib	1/15/88
15 3A(11a)		Modify weir structure	Scheib	12/15/89
14 5)	5) Sharp crested weir formula used for K-901-A (007)	Initiate project to modify weir structure	Scheib	1/15/88
17 3A(5a)		Modify weir structure	Scheib	12/15/89
18 6)	6) Sharp crested weir formula used for K-1515-C (009)	Initiate project to modify weir structure	Scheib	1/15/88
19 3A(6a)		Modify weir structure	Scheib	12/15/89
20 3B	Improper reference point used for calibration: K-1700 (001) K-1007-B (006) K-1515-C (009)	Provide proper calibration reference	Scheib	12/31/87
21 3C	Flow level indicator too close to weir: K-1007-B (006) K-1515-C (009)	Relocate flow level indicator	Pritchard	12/31/87
22 3D	Weir crest too close to bottom of approach channel: K-1700 (001) K-1515-C (009)	Modify weir structure	Scheib	12/15/89

<u>EPA</u>	<u>Deficiency</u>	<u>Correction</u>	<u>Responsible</u>	<u>Completion</u>
3E	Flow sensing unit located improperly K-1407-B (003)	Relocate sensing unit	Keylon	Complete
23 3F	Rectangular flow formula used for circular weir K-901-A (007)	Utilize proper equation for flow calculation	Scheib	1/15/88
25 3G	K-901-A weir not level	Modify weir structure	Scheib	12/15/89
3H				
26 3H(1)	Accurate weir measurements not used for flow calculation K-1007-B (006)	Modify flow equation for next monthly report	Scheib	12/15/87
27 3H(2)	Accurate weir measurements not used for flow calculation K-901-A (007)	Utilize proper equation and measurements for flow calculation	Scheib	1/15/88
28 3I	No chart recorder for continuous flow measurement	Purchase and install chart recorder for K-1407-B (003)	Scheib	3/31/88

#### 4 Sludge Disposal - No Energy Systems deficiencies

#### 5 Sampling

29 5A	Samples not preserved or dechlorinated during collection	Implement field preservation of samples	Morrow	3/1/88
30 5B	Burial ground sample not 24-hour composite sample	Initiate 24-hour composite sample at burial ground	Bowman	12/15/87
5C	Samples not iced during transport	Ice samples during transport	Bowman	Complete
31 5D	Composite samplers not refrigerated: K-1700 (001) K-1407-B (003) K-1007-B (006) K-901-A (007)	Install refrigerated composite samplers	Pritchard	1/31/88

<u>EPA</u>	<u>Deficiency</u>	<u>Correction</u>	<u>Responsible</u>	<u>Completion</u>
31 5E	Composite samplers not flow proportional: K-1700 (001) K-1407-B (003) K-1203 (005) K-1007-B (006) K-901-A (007)	Install flow proportional controller	Pritchard	3/31/88
32 5F	Composite samplers have stainless steel collection container: K-1700 (001) K-1407-B (003) K-1007-B (006) K-901-A (007)	Install composite samplers with glass insert	Pritchard	1/31/88
33 5G	Intake line on automatic samplers not sufficient diameter: K-1700 (001) K-1407-B (003) K-1007-B (006) K-901-A (007)	Install refrigerated composite samplers with proper intake line size	Pritchard	1/31/88
5H	Thermometer removed from effluent stream during measurement	Modify procedure for temperature measurement	Bowman	Complete
5I	Fecal coliform sample taken improperly	Modify procedure for sample collection	Bowman	Complete
5J	Dissolved oxygen meter calibrated improperly	Modify procedure for proper calibration	Bowman	Complete
5K	pH calibration not frequent enough	Increase frequency and petition for variance to weekly calibration frequency	Pritchard/ Scheib	Complete
5L	Residual chlorine analyzer not calibrated properly	Modify calibration method to an Environmental Protection Agency (EPA) accepted method	Pritchard/ Bowman	Complete

Laboratory Evaluation Section1 Personnel - No Energy Systems deficiencies2 Facilities and equipment - No Energy Systems deficiencies3 Sample Handling, Preservatives, and Holding Times

<u>EPA</u>	<u>Deficiency</u>	<u>Correction</u>	<u>Responsible</u>	<u>Completion</u>
4 a)	Quarterly 24-hour composite sample needed for metals on burial ground instead of weekly grab samples	Obtain 24-hour composite sample each quarter	Bowman/ Morrow	12/15/87
5 b)	pH and residual chlorine not analyzed in field	Perform analyses in field	Morrow	3/1/88
6 c)	Sulfide and sulfite analyses not performed properly	Preserve sulfide sample in field and perform sulfite analysis in field	Morrow	3/1/88
7 d)	Resource Conservation and Recovery Act (RCRA) volatile organic samples not completed within recommended holding time	Employ additional personnel	Morrow	6/1/88
8 e)	RCRA organics not extracted within proper holding time	Employ additional personnel	Morrow	6/1/88
9 f)	Cyanide and phenol samples not pretreated properly	Perform proper field pretreatment	Morrow	3/1/88

4 Methodology

a)	pH measurements not corrected for temperature	Use automatic temperature compensating electrode	Morrow	Complete
b)	The BOD <sub>5</sub> method did not conform to EPA standard practices	Modify method to accepted EPA practices	Morrow	Complete

<u>EPA</u>	<u>Deficiency</u>	<u>Correction</u>	<u>Responsible</u>	<u>Completion</u>
c)	Total suspended solids method did not conform to EPA standard practices	Modify method to accepted EPA practices	Morrow	Complete
d)				
1)	Fecal coliform temperature measurement inadequate	Utilize more accurate temperature instrumentation	Morrow	Complete
4/D 4(2)	Autoclave not utilized for sterilizing fecal coliform analysis equipment	Purchase and utilize autoclave for fecal coliform analysis	Morrow	3/31/88
3)	Calculation methodology for fecal coliform did not conform to EPA standard practices	Modify method to accepted EPA practices	Morrow	Complete
41 4(e)	Ammonia nitrogen and fluoride method does not conform to EPA standard practices	Modify method to accepted EPA practices	Morrow	12/31/87
42 f)	Pesticide analysis method does not conform to EPA standard practices	Modify method to accepted EPA practices	Morrow	3/1/88
g)	Turbidity analysis equipment did not conform to EPA accepted equipment	Use proper equipment to conform to EPA standards	Morrow	Complete
h)	Calibration for ICP analysis did not conform to EPA standard practices	Modify calibration method to accepted EPA practices	Morrow	Complete

##### 5 Quality Assurance and Data Documentation

43 a)	Total Kjeldahl nitrogen reported instead of total organic nitrogen	Report total organic nitrogen on next monthly report	Scheib	12/15/87
-------	--	--	--------	----------

WJS 12/04/87

## Internal Correspondence

---

MARTIN MARIETTA ENERGY SYSTEMS, INC.

December 7, 1987

G. L. Love

Industrial Hygiene/Health Physics Department's Response to Quality Assurance Surveillance Activity of Specific Industrial Hygiene Analytical Support Procedures (ESAQA-87-3)

This letter is a response to the suggestions resulting from the quality assurance audit conducted on November 9, 1987. Suggestions number 1 and 2 were directed to the Industrial Hygiene Group.

Suggestion 1.a: There should be some documentation in the notebooks to say how they should be filled out, i.e., all blank spaces should be filled in with ink, or write "NA" (not applicable) where appropriate, etc.

Corrective Action: A label similar to that used in the Portsmouth Gaseous Diffusion Plant's logbook will be placed in each of the ORGDP sampling books. This label will detail the manner that the logbook is to be completed.

Corrective Action Deadline: 1/4/88

Suggestion 1.b: Since the notebooks contain original data, there should be written in or on the notebooks a statement which says that they shall be maintained 75 years as per DOE Order 1324 Records Management, and preparation should be made with Plant Records to that effect.

Corrective Action: A statement will be developed, placed in the logbooks, and Plant Records notified of the development.

Corrective Action Deadline: 1/4/88

Suggestion 1.c: All samples should be kept in a secured area which is centrally located to IH personnel whenever samples are not delivered to the lab the same day as they are collected.

Corrective Action: Samples that are not sent to the laboratory on the same day as collected will be left in the industrial hygiene laboratory. The laboratory is locked each night and has a security combination lock on one of the doors. This procedure should be sufficient to assure sample integrity.

Corrective Action Deadline: Completed

Suggestion 2: The sampling and analysis of quinoline should be documented in procedures which tell how to sample for the analyte and how it is to be analyzed when submitted to the laboratory.

Corrective Action: The Analytical Chemistry Department (ACD) is currently developing a sampling and analysis procedure for quinoline. At the completion of this development a procedure will be written.

Corrective Action Deadline: 2/29/88

Suggestion 3: In order to preclude potential reporting errors, asbestos raw data analysis report sheets should be reviewed by another certified analyst prior to submission to the Industrial Hygiene Department.

Corrective Action: All raw data sheets will be reviewed and initialed by a qualified person prior to being reported to the Industrial Hygiene/Health Physics Department.

Corrective Action Deadline: 12/14/87

Suggestion 4: The asbestos raw data report sheet on which industrial hygiene data is recorded and reported should be initialed by the analyst and the original kept in a notebook. A copy of this sheet and/or the AnaLis report should be sent to industrial hygiene. This notebook could be the same one mentioned in Suggestion 5 and should also have documentation within it which denotes that it should be kept for 75 years.

Corrective Action: The laboratory has not maintained a record of the raw data report sheets for asbestos due to lack of a notebook for recording data. A numbered and accountable notebook will be placed into use for the asbestos analysis. The original analysis sheets will be affixed to the logbook pages and a copy sent to the requester.

Corrective Action Deadline: 12/14/87

Suggestion 5: Quarterly calibration checks on the microscope used to count asbestos samples should be recorded, preferably in a notebook. A record of "no change" can be as valuable as a record of "change."

Corrective Action: A logbook for asbestos will be placed into use as noted in Suggestion 4 above. A single book will be used for both the calibration and analysis.

Corrective Action Deadline: 12/14/87

G. L. Love  
Page 3  
December 7, 1987

Suggestion 6: There should be documentation inside each industrial hygiene notebook used in the ACD laboratories to assure that they will always be kept in the lab for a certain period of time and transferred to Plant Records, with the appropriate paperwork, to be retained for 75 years.

Corrective Action: A copy of Procedure 2323 or other applicable instructions will be placed on the inside cover of all workbooks which are maintained for record purposes. This includes analyst workbooks, standards preparation books, instrument logbooks, and similar workbooks.

Corrective Action Deadline: Action to comply with this suggestion has begun and will be completed for all logbooks by 4/1/88.

Should you have questions concerning this matter, please contact me or Roy Morrow.

*V. H. Sharpe*  
D. T. Duncan, K-1003, MS 420 (4-8623)

DTD:DMilan:cyw

cc: M. S. Dill  
D. W. Frazier  
M. E. Mitchell  
— R. W. Morrow  
J. E. Shoemaker  
File-Industrial Hygiene - RC



[Q] NPDES

(find all)

(bring up cont #1)

[N] <sup>verify bar</sup> tab to Cont descr (bring up #2)

[R] " " " " (type in 2c)

<Ret>

[N]

[R] 2b, 2c, 2d  
type in next cont #

<Ret> repeat until all done

[A]

Q C S

## ENERGY SYSTEMS QUALITY INFORMATION SYSTEM

Menu

OPTIONS [ ] Query Next Prev Add Rev Del CL

QCS ID # [ENV-87/06-EPA-AUD-1

]

PLT/ORG [K ]

TITLE [NPDES EPA AUDIT

]

ACT TYPE ID [NPDES

]

COMMIT # [ 1] SCHED COMP DATE [12/15/87] ACTUAL COMP DATE [ / / ] ST [I]

COMMITMENT DESCRIPTION:

[2b INITIATE SAMPLING AND REPORT DATA ON NEXT MONTHLY REPORT.

[  
[  
[  
[]  
]  
]  
]

RESP INDIVIDUAL [SCHEIB WJ

]

RESP SUPERVISOR [

]

RESP DEPARTMENT [

]

RESP DIVISION [

]

PROGRAM/PRJ NAME [

]

PROGRAM/PRJ MGR [

]

PRINCIPAL ENGR [

]

QA SPECIALIST [FRAZIER DW

]

COMMENTS:

VERIFICATION RESP [FRAZIER DW

]

[  
[  
[]  
]  
]  
]

1 record(s) found

~~WIPDES~~

and  
QJ-ID # CONT 87-TN-

87-TN-P-<sup>AUD</sup>~~SUN~~-

XXX-

XXXXXX

cy  
FY

(NUM  
DESLC)

DISC) - (NR/MO) - (WHO) - (TYPED  
EVEN) ~~FILE~~

ENV.  
ID.  
HO  
etc

88/XX  
~~89/XX~~  
90  
etc

~~TDHE~~  
EPA  
-ESA  
ESH  
DOE

APPR  
SUN  
AND ?

202  
73

## Internal Correspondence

March 10, 1988

MARTIN MARIETTA ENERGY SYSTEMS, INC.

W. A. Gollither

### Energy Systems Transportation Audit of ORGDP

An Energy Systems transportation subcommittee review of the ORGDP Transportation Safety Program was held on December 8-10, 1987, in accordance with Energy Systems Policy. The review was performed by a three-person team representing the Energy Systems Transportation Safety Committee.

In general, the ORGDP's Transportation Safety Program was found to be in compliance with all of the off-site shipping regulations. Included in the attached report are the findings, suggestions, and recommendations as well as the guidelines used for the audit.

Please send me a copy of your definitive action plan for implementing the recommendations noted in the audit report within 30 days or receipt of this letter.

The cooperation extended by members of your staff during the audit is appreciated.

*D. G. Speas*

I. G. Speas, 1000, MS-335, ORNL (4-1648) - RC

IGS:KEM:bh

### Attachment

cc/att: D. J. Bostock  
R. G. Donnelly  
G. G. Fee  
M. E. Mitchell  
H. Postma  
K. W. Sommerfeld  
R. F. Swiger  
R. S. Wiltshire

bc/att: L. G. Blalock, DOE/ORO  
C. E. Block  
D. W. Frazier  
B. K. Hook  
F. M. Kovac  
K. E. McCormack  
D. McMurray  
W. A. Pryor, DOE/ORO  
L. O. Wyatt

REPORT OF TRANSPORTATION SAFETY AUDIT  
OF THE  
OAK RIDGE GASEOUS DIFFUSION PLANT  
DECEMBER 8-10, 1987

*K E McCormack*

K. E. McCormack *safety staff 01/5/88*  
ORNL Transportation ~~Coordinator~~ (Team Leader)

*D. McMurray*

D. McMurray  
Y-12 Transportation Coordinator

*F. M. Kovac / bjd*

F. M. Kovac  
Portsmouth Plant Traffic Department Supervisor

## INTRODUCTION

In accordance with Energy Systems policy, an audit was conducted of the ORGDP's Transportation Safety Program on December 8, 9, and 10, 1987. It was conducted by a three-member team representing the Energy Systems Transportation Safety Committee.

The team members were:

Kent E. McCormack - ORNL Transportation Coordinator (Team Leader)  
Don McMurray - Y-12 Transportation Coordinator  
Francis M. Kovac - Portsmouth Plant Traffic Supervisor

Guidelines used for the audit are attached.

A summary of the preliminary audit results (including recommendations and findings) were presented in a close-out meeting to J. E. Shoemaker, L. O. Wyatt, J. C. Hall, and S. A. Inklebarger on December 10, 1987.

## Summary

The audit focused on a comprehensive review of the ORGDP Transportation Safety Program in order to provide an in-depth, independent evaluation. All areas of the ORGDP program were reviewed extensively. Previous committee recommendations were examined for compliance.

The ORGDP program presentations were conducted by individuals responsible for the actual handling of hazardous materials or for providing a support function of transportation. In-depth discussions were held with those making the presentations. Complete and thorough handouts were made available to the audit team.

Site tours were made of the Traffic (Shipping, Receiving) Department, Storage Areas, Garage, Equipment Testing and Inspection Department, Toxic Substance Control Act Incinerator (TSCA) and the Maintenance Division.

In general, the ORGDP program was found to be in compliance with Energy Systems policies/procedures, DOE orders and DOT regulations. Any inconsistencies were of such a nature as to present no undue hazard to either personnel or the public. It was also the intent of the audit team to review situations that would indicate issues that should be pursued by the Energy Systems Transportation Safety Committee (ESTSC). As a result, it was determined that the ESTSC should review the current paperwork requirements of hazardous-waste shipments for all Energy Systems operated plants and develop one single, consistent manifest.

## Recommendations

Recommendation No. 87-1: Review distribution system for DOE orders going from DOE to ORGDP as well as the internal distribution system within ORGDP.

BASIS: A complete and up-to-date file on applicable DOE orders should be maintained and distributed to groups responsible for their implementation.

Recommendation No. 87-2: Develop and implement on-site procedures in accordance with 5480.3A for the movement of hazardous materials and hazardous wastes.

BASIS: DOE-ORO Order 5480.3A

Recommendation No. 87-3: Review and update maintenance inspection checklist criteria in order to ensure compliance with the DOT regulations.

BASIS: DOE Order 1540.1

### Findings

#### 1. Organization and Commitment

It was readily apparent that the ORGDP Transportation Program has both management's backing and commitment. It was also apparent that the functions of both the ORGDP Transportation Safety Coordinator and the ORGDP Transportation Council were vital, effective, and received excellent cooperation from plant personnel in ensuring safety. The Transportation Safety Council is composed of members from each of the major groups associated with Shipping and is familiar with the day-to-day operations at K-25.

#### 2. Procedures

The transportation procedures used appeared to be both thorough and up-to-date. Of particular note was the development and use of Job Safety Analysis forms which describe the basic job steps and identify potential hazards associated with each task. Additionally, the procedure describes what should be done to obviate the hazards.

Formal procedures for tie-downs for both on- and off-site movements did not exist.

SUGGESTION: Review the DOT requirements for tie-downs (49 CFR 393.100, 393.102, and 393.104) as well as the soon-to-be-issued ANSI Standard N-14.2 and develop both on- and off-site tie-down standards.

#### 3. Training

It was evident that employees have received training in the area of transportation, but the records relative to this training appeared to be both dispersed and incomplete. The members of the Transportation Safety Council were well trained, having taken DOE's basic and advanced training workshop on hazardous material transfers.

SUGGESTION: Consolidate and properly document training files. Develop training criteria for drivers that clearly distinguishes the training of on-site and off-site drivers. Proper training documentation should reflect what is appropriate for training new-hires in addition to ensuring continuity in the event of personnel turnover.

4. Communications

Evidence of good communications between ES&H and Line Management was reflected throughout the plant. Noteworthy was the use of a videotape describing the Transportation Safety Council which is used at Divisional safety meetings. This appears to be an effective promotional/educational tool and could be used at other plants as well as in other disciplines.

5. Records Requirements

Property and inspection records, in general, appear to be in good condition. The use of a computerized filing system by the Maintenance Department and the Garage is quite commendable.

6. Performance

From the handouts given covering the Transportation Safety Council minutes, it was apparent internal audits (both scheduled and unscheduled) occurred frequently--approximately one every other month. It was felt that plant awareness of Transportation Safety is a direct result from this action.

7. Quality Assurance

Quality Assurance was not reviewed.

8. Tour of Facilities

The team found site operation related to transportation safety to be carried out by knowledgeable personnel.

Some of the areas toured included the Traffic Department Shipping and Receiving areas, Hazardous Chemical Storage areas, the Garage, Maintenance Department, and the TSCA Incinerator.



### Energy Systems Internal Transportation Safety Audit Program

1. Installation transportation safety programs will be audited on a two-year frequency with two installations being audited each year.
2. The audit program will be controlled and the schedules prepared by the Energy Systems Transportation Safety Committee.
3. The audit team will consist of a team leader and up to two additional members from the Energy Systems Transportation Safety Committee, or designated alternates. No audit team member will be from the installation being audited and the team leader role will be rotated.
4. A letter will be sent from the Energy Systems Safety Programs Manager to the Manager/Director of the installation to be audited at least three weeks prior to the audit period, advising him of the audit dates and guidelines.
5. The audit team leader will prepare a detailed audit schedule and send a copy of the schedule to the installation Health, Safety, and Environmental Affairs/Accountability Manager/Director at least one week prior to the audit. The detail schedule will always allow for an initial meeting with installation management representatives to discuss the schedule details.
6. The team will normally spend up to four days conducting the audit.
7. A close out meeting will be held with installation management at the end of the audit to discuss the general findings.
8. A formal report of the audit, including findings and any recommendations, will be prepared and transmitted within one month following the audit to the installation Manager/Director and other appropriate staff.
9. A written installation response to any recommendations should be prepared and transmitted to the Energy Systems Safety Programs Manager within one month following receipt of the audit report.
10. Actions completed, under way, or planned on the audit recommendations made will be a standing agenda item for Energy Systems Transportation Safety Committee meetings.

12/18/86

## Guidelines for Energy Systems Transportation Safety Audit Program

### 1. Organization and Commitment

- a. Evidence of Management concern, involvement, support and commitment
- b. Definitive assignment of responsibilities
- c. Adequacy of staff resources
- d. Follow-up of actions to correct discrepancies

### 2. Procedures

- a. Consistency with Energy Systems policy
- b. System for review and update
- c. Appropriateness and awareness of procedures in working environments
- d. Procedures implementation process

### 3. Training

- a. Responsibilities for training are well defined
- b. Adequacy
- c. Documentation of training
- d. Programs are in place and functioning

### 4. Communications

- a. Employee awareness of TS standards
- b. Adequate system for vertical/horizontal reporting of deficiencies and occurrences
- c. Promotional activities
- d. Distribution of regulatory requirements is effective

### 5. Records Requirements

- a. Shipments
- b. Packaging - procurement, certification, QA, and maintenance
- c. Waste
- d. Maintain regulatory requirements
- e. Radioactive monitoring records for shipments
- f. Significant correspondence
- g. Fleet/Equipment maintenance

### 6. Performance

- a. Recordable incidents history compared to total experience
- b. Comparison of performance to others
- c. Internal audits/reviews performed, results, and corrective action taken

### 7. Quality Assurance

- a. Package design
- b. Package procurement
- c. Package maintenance

## Internal Correspondence

MARTIN MARIETTA ENERGY SYSTEMS, INC.

March 30, 1988

I. G. Speas

Energy Systems Transportation Safety Audit of ORGDP

As requested in your letter of March 10, 1988, attached is an action plan for implementing the recommendations resulting from the subject audit. These actions will be tracked via the ORGDP QA data base, and you will be notified when all action items have been completed.

Please call L. O. Wyatt (4-8950), if you have any questions or comments regarding the proposed actions.



W. R. Golliher, K-1001, MS 134 (4-7930)

WRG:LOWyatt:ck

Attachment

cc: File-WRG

cc/att: E. L. Allred  
D. J. Bostock  
J. T. Bradbury  
R. G. Donnelly  
G. G. Fee  
J. C. Hall  
F. M. Kovac (PORTS)  
S. H. Lowe  
K. E. McCormack  
D. McMurray  
M. E. Mitchell  
C. H. Peterson  
H. Postma  
K. W. Sommerfeld  
R. F. Swiger  
D. A. Waters  
H. D. Whitehead, Jr.  
R. S. Wiltshire  
L. O. Wyatt - RC

**ENERGY SYSTEMS TRANSPORTATION SAFETY AUDIT  
OF THE OAK RIDGE GASEOUS DIFFUSION PLANT**

**December 8-10, 1987**

**87-1 Recommendation:**

Review distribution system for DOE Orders going from DOE to ORGDP as well as the internal distribution system within ORGDP.

**Action:**

The system for distributing DOE Orders to Energy Systems facilities will be submitted to the Energy Systems Transportation Safety Committee for review.

**Scheduled Completion Date:** June 30, 1988

**Action:**

The ORGDP Transportation Safety Council will review internal distribution of DOE Orders.

**Scheduled Completion Date:** May 31, 1988

**87-2 Recommendation:**

Develop and implement on-site procedures in accordance with 5480.3A for the movement of hazardous materials and hazardous wastes.

**Action:**

Existing procedure (SPP 338 - "Shipment and Transport of Off-Site Materials and Equipment") will be reviewed for agreement with DOE-ORO Order 5480.3A and will be revised to correct any discrepancies.

**Scheduled Completion Date:** May 31, 1988

**87-3 Recommendation:**

Review and update maintenance inspection checklist criteria in order to ensure compliance with the DOT regulations.

**Action:**

Vehicle maintenance inspection checklists will be reviewed to ensure compliance with DOT regulations.

**Scheduled Completion Date:** May 31, 1988